DUKE ENERGY CAROLINAS, LLC DOCKET 2018-319-E SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN 1 SUMMER CP DEMAND ALLOCATION

Smith Rebuttal Exhibit 3 Page 1

	TOT_RETAIL	TOT_RETAIL Excl GW	Residential	Residential	Residential		
Line	SOUTH CAROLINA	SOUTH CAROLINA	SCRS-1	SCRT	SCRE	SCSGS	SCLGS
No. <u>Description</u>	Retail_1	Retail_1	Retail_2	Retail_3	Retail_4	Retail_5	Retail_6
1 DISTRIBUTION PLANT IN SERVICE, Excluding 370, 371, 373, and Extra Facilities		2,391,401	877,910	1,146	798,104	242,414	75,926
2 Distribution Customer Class Allocations for Projections		99.58%	36.56%	0.05%	33.23%	10.09%	3.16%
3							
4 Transmission Peak		4,152,267	962,385	1,714	642,077	351,024	279,400
5 Transmission Peak Percentage		99.71%	23.11%	0.04%	15.42%	8.43%	6.71%
6							
7							
8 Distribution Intangible Plant		177,564	61,298	74	53,257	17,580	3,335
9 Distribution Intangible Plant Allocation		99.60%	34.38%	0.04%	29.87%	9.86%	1.87%
10							
11 Phase 1 Rate Step up							
12 Distribution Revenue Requirement	\$ 6,409,027	\$6,381,870	2,342,855.48	3,059.28	2,129,879.11	646,924.76	202,622.02
13 Transmission Revenue Requirement	\$3,395,109	\$3,385,098	784,575.63	1,397.32	523,447.44	286,169.13	227,778.31
14 General Intangible Plant (Communications / Enterprise Systems)	\$6,341,084	\$6,315,521	2,180,210.83	2,647.77	1,894,237.45	625,290.06	118,605.09
15 Total (Sum L12 through L14)	\$16,145,220	\$16,082,489	\$5,307,642	\$7,104	\$4,547,564	\$1,558,384	\$549,005
16							
17 Customer % for Distribution Investments based on Current Investments			56.69%	47.26%	50.50%	59.00%	5.54%
18							
19 Customer Related Portion (L12 * L17)		\$ 2,840,898	1,328,123.51	1,445.77	1,075,607.80	381,665.29	11,218.77
20 Non-Customer Related Portion (L15 - L19)		\$ 13,241,590	3,979,518.43	5,658.61	3,471,956.20	1,176,718.66	537,786.65
21 Total Revenue Requirement (Sum L19 through L20)		\$ 16,082,489	\$ 5,307,642 5	7,104	\$ 4,547,564	1,558,384 \$	549,005

Phase 2 Rate Step up							
22 Distribution Revenue Requirement	\$ 9,124,286	\$9,085,623	3,335,433.26	4,355.38	3,032,226.99	921,001.91	288,465.17
23 Transmission Revenue Requirement	\$4,304,130	\$4,291,438	994,641.18	1,771.45	663,597.44	362,789.24	288,764.63
24 General Intangible Plant (Communications / Enterprise Systems)	 \$6,675,174	\$6,648,265	2,295,078.88	2,787.27	1,994,038.52	658,234.51	124,854.00
25 Total (Sum L22 through L24)	\$20,103,590	\$20,025,326	\$6,625,153	\$8,914	\$5,689,863	\$1,942,026	\$702,084
26							
27 Customer % for Distribution Investments based on Current Investments			56.69%	47.26%	50.50%	59.00%	5.54%
28							
29 Customer Related Portion (L22 * L27)		\$ 4,044,478	1,890,798.37	2,058.28	1,531,301.46	543,362.20	15,971.73
30 Non-Customer Related Portion (L25 - L29)	_	\$ 15,980,848	4,734,354.95	6,855.82	4,158,561.49	1,398,663.47	686,112.07
31 Total Revenue Requirement (Sum L29 through L30)	_	\$ 20,025,326	\$ 6,625,153	\$ 8,914	\$ 5,689,863	\$ 1,942,026	5 702,084

Lines 1 through 9 from the Cost of service study.

Lines 12 through 14 from Smith Exhibit 3, page 2 lines 70 though 72. Lines 22 through 24 from Smith Exhibit 3, page 4 lines 82 though 84.

DUKE ENERGY CAROLINAS, LLC DOCKET 2018-319-E SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN 1 SUMMER CP DEMAND ALLOCATION

Smith Rebuttal Exhibit 3 Page 1 Cont.

	Lighting	Lighting	Lighting	Lighting				
Line	SCOL	SCNL	SCGL	SCPL	SCTS	SCI	SCOPT-G	SCOPT-I
No. <u>Description</u>	Retail_7	Retail_8	Retail_9	Retail_10	Retail_11	Retail_12	Retail_13	Retail_14
1 DISTRIBUTION PLANT IN SERVICE, Excluding 370, 371, 373, and Extra Facilities	10,777	1	610	4,666	2,281	45,148	118,471	213,948
2 Distribution Customer Class Allocations for Projections	0.45%	0.00%	0.03%	0.19%	0.09%	1.88%	4.93%	8.91%
3								
4 Transmission Peak	0	0	0	0	276	172,093	543,704	1,199,594
5 Transmission Peak Percentage	0.00%	0.00%	0.00%	0.00%	0.01%	4.13%	13.06%	28.80%
6								
7								
8 Distribution Intangible Plant	22,397	0	166	2,031	268	2,003	5,571	9,582
9 Distribution Intangible Plant Allocation	12.56%	0.00%	0.09%	1.14%	0.15%	1.12%	3.12%	5.37%
10								
11 Phase 1 Rate Step up								
12 Distribution Revenue Requirement	28,759.65	1.61	1,627.97	12,451.19	6,086.05	120,484.38	316,160.74	570,957.72
13 Transmission Revenue Requirement	-	-	-	-	225.01	140,297.26	443,249.75	977,958.11
14 General Intangible Plant (Communications / Enterprise Systems)	796,619.55	5.59	5,899.34	72,251.64	9,547.29	71,241.85	198,152.70	340,811.60
15 Total (Sum L12 through L14)	\$825,379	\$7	\$7,527	\$84,703	\$15,858	\$332,023	\$957,563	\$1,889,727
16								
17 Customer % for Distribution Investments based on Current Investments	-0.38%	66.62%	74.18%	48.92%	97.48%	3.97%	7.16%	0.40%
18								
19 Customer Related Portion (L12 * L17)	(109.98)	1.07	1,207.57	6,090.99	5,932.69	4,779.26	22,652.88	2,282.59
20 Non-Customer Related Portion (L15 - L19)	825,489.17	6.12	6,319.74	78,611.85	9,925.66	327,244.22	934,910.32	1,887,444.84
21 Total Revenue Requirement (Sum L19 through L20)	\$ 825,379 \$	7 \$	7,527 \$	84,703	15,858	332,023	957,563	\$ 1,889,727

Phase 2 Rate Step up								
22 Distribution Revenue Requirement	40,944.00	2.29	2,317.68	17,726.28	8,664.48	171,528.97	450,105.90	812,850.56
23 Transmission Revenue Requirement	-	-	-	-	285.25	177,861.03	561,927.28	1,239,800.69
24 General Intangible Plant (Communications / Enterprise Systems)	838,590.78	5.88	6,210.15	76,058.34	10,050.30	74,995.35	208,592.71	358,767.83
25 Total (Sum L22 through L24)	\$879,535	\$8	\$8,528	\$93,785	\$19,000	\$424,385	\$1,220,626	\$2,411,419
26								
27 Customer % for Distribution Investments based on Current Investments	-0.38%	66.62%	74.18%	48.92%	97.48%	3.97%	7.16%	0.40%
27 Customer $%$ for Distribution Investments based on Current Investments 28	-0.38%	66.62%	74.18%	48.92%	97.48%	3.97%	7.16%	0.40%
_,	-0.38% (156.57)	66.62% 1.52	74.18% 1,719.17	48.92% 8,671.50	97.48% 8,446.14	3.97% 6,804.05	7.16% 32,250.03	0.40% 3,249.64
28								
_,	-0.38%	66.62%	74.18%	48.92%	97.48%	3.97%	7.16%	0.40%

Lines 1 through 9 from the Cost of service study.

Lines 12 through 14 from Smith Exhibit 3, page 2 lines 70 though 72. Lines 22 through 24 from Smith Exhibit 3, page 4 lines 82 though 84.

DUKE ENERGY CAROLINAS, LLC DOCKET 2018-319-E SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN 1 SUMMER CP DEMAND ALLOCATION

Smith Rebuttal Exhibit 3 Page 1 Cont.

Line No. Description	SCOPT Retail 15	Greenwood Retail 16	SC Retail (Incl GW) Retail 35
1 DISTRIBUTION PLANT IN SERVICE, Excluding 370, 371, 373, and Extra Facilities	332,419	10,176	2,401,577
2 Distribution Customer Class Allocations for Projections	13.84%	0.42%	100.00%
3			
4 Transmission Peak	1,743,298	12,280	4,164,547
5 Transmission Peak Percentage	41.86%	0.29%	100.00%
6			
7			
8 Distribution Intangible Plant	15,153	719	178,283
9 Distribution Intangible Plant Allocation	8.50%	0.40%	100.00%
10			
11 Phase 1 Rate Step up			
12 Distribution Revenue Requirement	887,118.47	27,157.41	6,409,027.37
13 Transmission Revenue Requirement	1,421,207.86	10,011.16	3,395,109.12
14 General Intangible Plant (Communications / Enterprise Systems)	538,964.30	25,562.90	6,341,083.65
15 Total (Sum L12 through L14)	\$2,847,291	\$62,731	\$16,145,220
16			
17 Customer % for Distribution Investments based on Current Investments	2.81%	44.91%	44.52%
18			
19 Customer Related Portion (L12 * L17)	24,935.47	12,196.79	2,853,094.99
20 Non-Customer Related Portion (L15 - L19)	2,822,355.16	50,534.68	13,292,125.15
21 Total Revenue Requirement (Sum L19 through L20)	\$ 2,847,291	\$ 62,731	\$ 16,145,220

Phase 2 Rate Step up			
22 Distribution Revenue Requirement	1,262,956.45	38,662.96	9,124,285.84
23 Transmission Revenue Requirement	1,801,727.98	12,691.59	4,304,129.78
24 General Intangible Plant (Communications / Enterprise Systems)	567,360.54	26,909.72	6,675,174.26
25 Total (Sum L22 through L24)	\$3,632,045	\$78,264	\$20,103,590
26			
27 Customer % for Distribution Investments based on Current Investments	2.81%	44.91%	44.52%
28			
29 Customer Related Portion (L22 * L27)	35,499.67	17,364.10	4,061,841.64
30 Non-Customer Related Portion (L25 - L29)	3,596,545.30	60,900.17	16,041,748.24
31 Total Revenue Requirement (Sum L29 through L30)	\$ 3,632,045 \$	78,264 \$	20,103,590

Lines 1 through 9 from the Cost of service study.

Lines 12 through 14 from Smith Exhibit 3, page 2 lines 70 though 72. Lines 22 through 24 from Smith Exhibit 3, page 4 lines 82 though 84.

DUKE ENERGY CAROLINAS, LLC Smith Rebuttal Exhibit 3 DOCKET 2018-319-E SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1 REVENUE REQUIREMENT

Page 2

For the period January 1, 2019 through December 31, 2019

Line			Total	Depreciation		
No.	Description		SC Retail	Rate	\mathbf{D}_{0}	epreciation
1	Impact to Rate Base Line Items					
2	Additions to gross electric plant:					
3	Distribution [1]	\$	32,781,330	2.15%	\$	704,799
4	Transmission [1]		19,018,777	2.03%		386,081
5	General - Communication & Advanced DMS [1]		11,713,263	10.00%		1,171,326
6	General - Enterprise Applications [1]		4,690,135	20.00%		938,027
7	Impact to electric plant in service (Sum L3 through L6)	\$	68,203,505		\$	3,200,233
8						
9	Accumulated depreciation & amortization:					
10	Distribution accumulated depreciation (-L3)	\$	(704,799)			
11	Transmission accumulated depreciation (-L4)		(386,081)			
12	General Plant accumulated depreciation (-Sum L5 through L6)		(2,109,353)			
13	Impact to accumulated depreciation (Sum L10 through L12)	\$	(3,200,233)			
14						
15	Net electric plant:					
16	Distribution (L3 $+$ L10)	\$	32,076,531			
17	Transmission (L4 + L11)		18,632,696			
18	General Plant $(L5 + L6 + L12)$		14,294,045			
19	Impact to net plant (Sum L16 through L18)	\$	65,003,272			
20						
21	Cost of Capital [2]	9.59%				
22						
23	Rate Base Revenue Requirement					
24	Distribution (L16 * L21)	\$	3,075,057			
25	Transmission (L17 * L21)		1,786,247			
26	General Plant (L18 * L21)		1,370,317			
27	Impact to net plant (Sum L24 through L26)	\$	6,231,621			
28						
29	Impact to Income Statement Line Items					
30	Depreciation and amortization:					
31	Distribution depreciation expense (L3)	\$	704,799			
32	Transmission depreciation expense (L4)		386,081			
33	General Plant depreciation expense (Sum L5 through L6)		2,109,353			
34	Impact to deprec. and amortization (Sum L31 through L33)	\$	3,200,233			
35						

Smith Rebuttal Exhibit 3
Page 2 Cont.

Line				Total
No.	Description			SC Retail
36	Amortization of 2019 deferral:			
37	Distribution depreciation expense [3]		\$	2,275,354
38	Transmission depreciation expense [3]			1,108,376
39	General Plant depreciation expense [3]			2,746,868
40	Impact to deprec. and amortization (Sum L37 through L39)		\$	6,130,598
41				
42	General taxes:			
43	1 2	1.0343%		
44	Property tax rate - Combined North Carolina and South Carolina	0.5641%		
45				
46	Distribution property tax expense (L3 * L43)		\$	339,048
47	Transmission property tax expense (L4 * L44)			107,277
48	General Plant property tax expense (Sum(L5 through L6) * L44)			92,525
49	Impact to general taxes (Sum L46 through L48)		\$	538,850
50				
51	Income Taxes	24.95%		
52	Distribution (L31 + L37 + L46) * -L51		\$	(828,140)
53	Transmission $(L32 + L38 + L47) * -L51$			(399,633)
54	General Plant $(L33 + L39 + L48) * -L51$			(1,234,712)
55	Total income taxes (Sum L52 through L54)		\$	(2,462,485)
56	· · · · · · · · · · · · · · · · · · ·			
57	Total Income statement impact			
58	Distribution (L31 + L37 + L46 + L52)		\$	2,491,060
59	Transmission $(L32 + L38 + L47 + L53)$			1,202,102
60	General Plant (L33 + L39 + L48 + L54)			3,714,034
61	Total income statement impact (Sum L58 through L60)		\$	7,407,196
62				
63	Income Statement Requirement	74.72%	[4]	
64	Distribution (L58 / L63)		\$	3,333,970
65	Transmission (L59 / L63)			1,608,862
66	General Plant (L60 / L63)			4,970,767
67	Total income statement Requirement (Sum L64 through L66)		\$	9,913,599
68	1 ()			- / /
69	Total Revenue Requirement for Plant additions and Deferral			
70	Distribution (L24 + L64)		\$	6,409,027
71	Transmission (L25 + L65)		4	3,395,109
72	General Plant (L26 + L66)			6,341,084
73	Total Revenue Requirement (Sum L70 through L72)		\$	16,145,220
	hith Exhibit 3 page 3, lines 7-11 May, 2020.		Ψ	10,110,220
	hith Exhibit 3 page 7, line 5.			
[2] 311	nui Exmort 5 page 7, mic 5.			

[3] Smith Exhibit 3 page 3, lines 114-116 [4] Smith Exhibit 3 page 7, line 24.

Calculation of South Carolina Retail Costs Line	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
No. Description	<u>Jan</u>	<u>Feb</u>	Mar	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	Aug	Sep	Oct	Nov	Dec
No. Description												
1 Plant-in-Service: [1]												
2 Distribution to Plant in Service	2,858,924	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219	2,720,219
3 Transmission to Plant in Service	636,857	934,422	716,023	2,163,617	2,149,517	2,126,163	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363
4 Advanced DMS Plant in Service			-	· · ·	· · · ·	-	· · · · -	· · · · -	· · ·	-	· · · · -	3,518,060
5 Communications Plant in Service	1,359,185	637,923	1,310,188	543,101	543,101	543,101	543,101	543,101	543,101	543,101	543,101	543,101
6 Enterprise Applications Plant in Service	· · · ·	-	· · · ·	-	-	-	-	´-	-	-	-	4,690,135
7 Cumulative Distribution investment (L2)	2,858,924	5,579,142	8,299,361	11,019,580	13,739,799	16,460,017	19,180,236	21,900,455	24,620,673	27,340,892	30,061,111	32,781,330
8 Cumulative Transmission investment (L3)	636,857	1,571,279	2,287,302	4,450,919	6,600,436	8,726,599	10,441,962	12,157,325	13,872,688	15,588,051	17,303,414	19,018,777
9 Cumulative Advanced DMS investment (L4)	-	-	_	-	-	-	-	-	-	-	-	3,518,060
10 Cumulative Communication investment (L5)	1,359,185	1,997,108	3,307,296	3,850,397	4,393,497	4,936,598	5,479,699	6,022,800	6,565,901	7,109,001	7,652,102	8,195,203
11 Cumulative Enterprise Application investment (L6)	-	-	-	-	-	-	-	-	-	-	-	4,690,135
12												
13 Accumulated depreciation & amortization:												
14 Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%
15 Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
16 Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
17 Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
18 Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
19 Distribution depreciation expense (L7 * L14)	-	5,122	9,996	14,870	19,743	24,617	29,491	34,365	39,238	44,112	48,986	53,859
20 Transmission depreciation expense (L8 * L15)	-	1,077	2,658	3,869	7,529	11,166	14,763	17,664	20,566	23,468	26,370	29,272
21 Advanced DMS depreciation expense (L9 * L16)	-	-	-	_	-	-	-	-	-	-	-	-
22 Communication depreciation expense (L10 * L17)	-	11,327	16,643	27,561	32,087	36,612	41,138	45,664	50,190	54,716	59,242	63,768
23 Enterprise Application depreciation expense (L11 * L18)	-	-	-	-	-	-	-	-	-	-	-	-
24 Distribution accumulated depreciation	-	(5,122)	(15,118)	(29,988)	(49,731)	(74,348)	(103,839)	(138,204)	(177,442)	(221,554)	(270,540)	(324,400)
25 Transmission accumulated depreciation	-	(1,077)	(3,735)	(7,605)	(15,134)	(26,300)	(41,062)	(58,727)	(79,293)	(102,761)	(129,131)	(158,402)
26 Advanced DMS accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
27 Communication accumulated depreciation	-	(11,327)	(27,969)	(55,530)	(87,617)	(124,229)	(165, 367)	(211,032)	(261,222)	(315,937)	(375,179)	(438,947)
28 Enterprise Application accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
29												
30 Net electric plant												
31 Distribution (L7 + L24)	2,858,924	5,574,020	8,284,243	10,989,592	13,690,067	16,385,669	19,076,397	21,762,251	24,443,231	27,119,338	29,790,571	32,456,930
32 Transmission (L8 + L25)	636,857	1,570,202	2,283,566	4,443,314	6,585,301	8,700,299	10,400,899	12,098,598	13,793,395	15,485,290	17,174,284	18,860,375
33 Advanced DMS (L9 + L26)	-	-	-	-	-	-	-	-	-	-	-	3,518,060
34 Communication (L10 + L27)	1,359,185	1,985,781	3,279,327	3,794,867	4,305,881	4,812,369	5,314,332	5,811,768	6,304,679	6,793,064	7,276,923	7,756,256
35 Enterprise Application (L11 + L28)	-	-	-	-	-	-	-	-	-	-	-	4,690,135
36 Average rate base - Distribution	1,429,462	4,216,472	6,929,132	9,636,917	12,339,830	15,037,868	17,731,033	20,419,324	23,102,741	25,781,285	28,454,954	31,123,751
37 Average rate base - Transmission	318,428	1,103,529	1,926,884	3,363,440	5,514,308	7,642,800	9,550,599	11,249,749	12,945,997	14,639,343	16,329,787	18,017,329
38 Average rate base - Advanced DMS	-	-	-	-	-	-	-	-	-	-	-	1,759,030
39 Average rate base - Communication	679,592	1,672,483	2,632,554	3,537,097	4,050,374	4,559,125	5,063,350	5,563,050	6,058,224	6,548,872	7,034,994	7,516,590
40 Average rate base - Enterprise Application	-	-	-	-	-	-	-	-	-	-	-	2,345,068

<u>Calculation of South Carolina Retail Costs</u> Line	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
41	Jan	<u>Feb</u>	Mar	<u>Apr</u>	May	<u>Jun</u>	<u>Jul</u>	Aug	<u>Sep</u>	Oct	Nov	Dec
42 Return on rate base:												
43 Long-term debt [4]	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%
44 Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%
45 Distribution Debt return on rate base (L36 x L43 / 12)	2,536	7.481	12,294	17.098	21,894	26,681	31,459	36,229	40,990	45,742	50,486	55,221
46 Transmission Debt return on rate base (L37 x L43 / 12)	565	1,958	3,419	5,968	9,784	13,560	16,945	19,960	22,969	25,974	28,973	31,967
47 Advance DMS Debt return on rate base (L38 x L43 / 12)	-	-	5,	-	-,,,,,,	-			-	23,77.	20,773	3,121
48 Communication Debt return on rate base (L39 x L43 / 12)	1,206	2,967	4,671	6,276	7,186	8,089	8,984	9,870	10,749	11,619	12,482	13,336
49 Enterprise Application Debt return on rate base (L40 x L43 / 12)	-,200	2,707	-	-	-,100	-	-	-	-		-	4,161
50 Distribution Equity return on rate base (L36 x L44 / 12)	8,833	26,054	42,817	59,549	76,250	92,922	109,564	126,175	142,757	159,308	175,829	192,320
51 Transmission Equity return on rate base (L37 x L44 / 12)	1,968	6,819	11,907	20,783	34,074	47,226	59,015	69,515	79,996	90,460	100,905	111,333
52 Advance DMS Equity return on rate base (L38 x L44 / 12)	-	-	-	20,703			-	-	-	-	-	10,869
53 Communication Equity return on rate base (L39 x L44 / 12)	4,199	10,335	16,267	21,856	25,028	28,172	31,288	34,375	37,435	40,467	43,471	46,447
54 Enterprise Application Equity return on rate base (L40 x L44 / 12)	-,,,,	-		21,000	25,020	20,172	51,200	-	-	-	-	14,491
55												,
56 Other operation and maintenance expense: [3]												
57 Distribution O&M	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684	63,684
58 Transmission O&M	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506	17,506
59 General Plant O&M	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240	232,240
60 Total O&M	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430	313,430
61	313,130	515,150	313,130	313,130	313,130	313,130	313,130	313,130	515,150	515,150	313,130	515,150
62 Depreciation and amortization:												
63 Distribution depreciation expense (L19)	_	5,122	9,996	14,870	19,743	24,617	29,491	34,365	39,238	44,112	48,986	53,859
64 Transmission depreciation expense (L20)	_	1,077	2,658	3,869	7,529	11,166	14,763	17,664	20,566	23,468	26,370	29,272
65 General plant depreciation expense (sum (L21:23))	_	11,327	16,643	27,561	32,087	36,612	41,138	45,664	50,190	54,716	59,242	63,768
66 Total Depreciation	_	17,526	29,297	46,300	59,360	72,395	85,392	97,693	109,994	122,296	134,597	146,899
67		17,520	27,277	40,500	37,300	12,373	05,572	77,075	100,004	122,270	154,577	140,022
68 General taxes:												
69 Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
70 Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%
71	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070	0.5070
72 Distribution property tax expense												
73 Transmission property tax expense												
74 General Plant property tax expense												
75 Impact to general taxes (Sum (L72:L74)		-	-	-	_	-	_	-	-	-	-	_
76												
77 Total impact to operating income:												
78 Distribution (L57 + L63 + L72)	63,684	68,806	73,680	78,554	83,427	88,301	93,175	98,048	102,922	107,796	112,670	117,543
79 Transmission (L58 + L64 + L73)	17,506	18,584	20,164	21,376	25,036	28,672	32,269	35,171	38,072	40,974	43,876	46,778
80 General Plant (L59 + L65 + L74)	232,240	243,566	248,883	259,801	264,327	268,852	273,378	277,904	282,430	286,956	291,482	296,007
81												
82 Amount for Deferral												
83 Distribution impact to operating income (L45 + L50 + L78)	75,053	102,342	128,790	155,200	181,572	207,904	234,198	260,453	286,669	312,846	338,985	365,085
84 Transmission impact to operating income (L46 + L51 + L79)	20,039	27,360	35,490	48,127	68,894	89,459	108,229	124,645	141,038	157,408	173,754	190,078
85 General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	237,645	256,869	269,820	287,933	296,541	305,113	313,649	322,150	330,614	339,042	347,434	388,432
86 Total	332,737	386,571	434,101	491,260	547,006	602,476	656,076	707,247	758,321	809,296	860,174	943,595
87 Distribution Cumulative amount for deferral	75,053	177,619	307,164	463,813	647,690	858,919	1,097,623	1,363,929	1,657,962	1,979,849	2,329,718	2,707,698
88 Transmission Cumulative amount for deferral	20,039	47,459	83,150	131,667	201,203	291,657	401,360	528,078	671,896	832,893	1,011,149	1,206,744
89 General Plant Cumulative amount for deferral	237,645	495,223	767,233	1,058,940	1,360,943	1,673,294	1,996,021	2,329,149	2,672,704	3,026,713	3,391,202	3,798,840
90												
91 Balance for return												
92 Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	37,527	126,448	242,769	386,213	556,905	754,967	980,524	1,233,702	1,514,627	1,823,426	2,160,226	2,525,155
93 Transmission Balance for Return (Prior Month L90 + Current Month L90 /2)	10,019	33,779	65,406	107,604	166,756	246,928	347,246	465,755	601,377	754,189	924,272	1,111,705
94 General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	118,823	366,789	632,322	914,974	1,212,672	1,520,738	1,839,197	2,168,074	2,507,397	2,857,192	3,217,485	3,604,624
95												

Smith Rebuttal Exhibit 3

Page 3

Calculation of SC Retail Costs

DUKE ENERGY CAROLINAS, LLC DOCKET 2018-319-E

SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 1 For the period January 1, 2019 through December 31, 2019

Calculation of South Carolina Retail Costs	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019	2019
Line	<u>Jan</u>	<u>Feb</u>	Mar	Apr	May	<u>Jun</u>	<u>Jul</u>	Aug	Sep	Oct	Nov	Dec
96 Return on Deferred Balance												
97 After Tax Long-term debt [4]	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%
98 After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%
99 Distribution Debt return on rate base (L92 x L97 / 12)	50	168	323	514	742	1,005	1,306	1,643	2,017	2,428	2,877	3,362
100 Transmission Debt return on rate base (L93 x L97 / 12)	13	45	87	143	222	329	462	620	801	1,004	1,231	1,480
101 General Plant Debt return on rate base (L94 x L97 / 12)	158	488	842	1,218	1,615	2,025	2,449	2,887	3,339	3,805	4,284	4,800
102 Distribution Equity return on rate base (L92 x L97 / 12)	174	586	1,126	1,791	2,583	3,501	4,547	5,721	7,024	8,456	10,018	11,710
103 Transmission Equity return on rate base (L93 x L97 / 12)	46	157	303	499	773	1,145	1,610	2,160	2,789	3,498	4,286	5,156
104 General Plant Equity return on rate base (L94 x L97 / 12)	551	1,701	2,932	4,243	5,624	7,052	8,529	10,054	11,628	13,250	14,921	16,716
105 Total	993	3,146	5,614	8,409	11,558	15,058	18,904	23,086	27,597	32,441	37,617	43,225
106												
107 <u>Total Deferred balance</u>												
108 Distribution deferral (L83 + L99 + L102)	75,277	103,096	130,240	157,506	184,896	212,411	240,051	267,817	295,710	323,731	351,880	380,158
109 Transmission deferral (L84 + L100 + L103)	20,099	27,562	35,880	48,769	69,889	90,933	110,302	127,425	144,628	161,909	179,271	196,714
110 General Plant deferral (L85 + L101 + L104)	238,354	259,058	273,595	293,394	303,780	314,191	324,628	335,091	345,581	356,097	366,640	409,948
111 Total Sum (L108:L110)	333,730	389,716	439,714	499,669	558,564	617,534	674,980	730,333	785,918	841,737	897,791	986,820
112												

113 Annual Amortization

- 114 Distribution amortization amount (L108/2) 115 Transmission amortization amount (L109/2) 116 General Plant amortization amount (L110/2) 117 Total Annual amortization amount (L111/2)
- [1] Based on lag time assumptions noted on Page 6
 - distribution plant, January based on 2018 capital spend. February December based on monthly amount from Page 6 [A]
 - transmission plant, January June based on 2018 capital spend. July December based on monthly amount from Page 6 [B]
 - communication plant, January March based on 2018 capital spend. April December based on monthly amount from Page 6 [C] Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed in service in December.
- Per accounting.
- [3] From Smith Exhibit 3 Page 6.
 [4] From Smith Exhibit 3, Page 7 lines 3 and 4

Line No.	Calculation of South Carolina Retail Costs Description	2020 <u>Jan</u>	2020 <u>Feb</u>	2020 <u>Mar</u>	2020 <u>Apr</u>	2020 <u>May</u>	<u>Total</u>
110.	Description						
1	Plant-in-Service: [1]						
	Distribution to Plant in Service						
	Transmission to Plant in Service						
4	Advanced DMS Plant in Service						
	Communications Plant in Service						
	Enterprise Applications Plant in Service						
	Cumulative Distribution investment (L2)	32,781,330	32,781,330	32,781,330	32,781,330	32,781,330	
	Cumulative Transmission investment (L3)	19,018,777	19,018,777	19,018,777	19,018,777	19,018,777	
	Cumulative Advanced DMS investment (L4)	3,518,060	3,518,060	3,518,060	3,518,060	3,518,060	
	Cumulative Communication investment (L5)	8,195,203	8,195,203	8,195,203	8,195,203	8,195,203	
	Cumulative Enterprise Application investment (L6)	4,690,135	4,690,135	4,690,135	4,690,135	4,690,135	
12							
	Accumulated depreciation & amortization:						
	Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	
	Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	
	Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
	Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
	Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	
	Distribution depreciation expense (L7 * L14)	58,733	58,733	58,733	58,733	58,733	
	Transmission depreciation expense (L8 * L15)	32,173	32,173	32,173	32,173	32,173	
	Advanced DMS depreciation expense (L9 * L16)	29,317	29,317	29,317	29,317	29,317	
	Communication depreciation expense (L10 * L17)	68,293	68,293	68,293	68,293	68,293	
	Enterprise Application depreciation expense (L11 * L18)	78,169	78,169	78,169	78,169	78,169	
	Distribution accumulated depreciation	(383,133)	(441,866)	(500,599)	(559,332)	(618,066)	
	Transmission accumulated depreciation	(190,576)	(222,749)	(254,923)	(287,096)	(319,269)	
	Advanced DMS accumulated depreciation	(29,317)	(58,634)	(87,952)	(117,269)	(146,586)	
	Communication accumulated depreciation	(507,240)	(575,533)	(643,827)	(712,120)	(780,413)	
	Enterprise Application accumulated depreciation	(78,169)	(156,338)	(234,507)	(312,676)	(390,845)	
29							
	Net electric plant						
	Distribution (L7 + L24)	32,398,197	32,339,464	32,280,730	32,221,997	32,163,264	
	Transmission (L8 + L25)	18,828,202	18,796,028	18,763,855	18,731,681	18,699,508	
	Advanced DMS (L9 + L26)	3,488,743	3,459,426	3,430,109	3,400,792	3,371,475	
	Communication (L10 + L27)	7,687,963	7,619,670	7,551,376	7,483,083	7,414,790	
	Enterprise Application (L11 + L28)	4,611,966	4,533,797	4,455,628	4,377,459	4,299,290	
	Average rate base - Distribution	32,427,564	32,368,830	32,310,097	32,251,364	32,192,631	
	Average rate base - Transmission	18,844,288	18,812,115	18,779,941	18,747,768	18,715,595	
	Average rate base - Advanced DMS	3,503,402	3,474,085	3,444,767	3,415,450	3,386,133	
	Average rate base - Communication	7,722,110	7,653,816	7,585,523	7,517,230	7,448,936	
40	Average rate base - Enterprise Application	4,651,051	4,572,882	4,494,713	4,416,544	4,338,375	

<u>Calculation of South Carolina Retail Costs</u> Line	2020 Jan	2020 Feb	2020 Mar	2020 <u>Apr</u>	2020 May	Total
41	<u> </u>	100	111411	-4-	<u></u>	10441
42 Return on rate base:						
43 Long-term debt [4]	2.129%	2.129%	2.129%	2.129%	2.129%	
44 Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	
45 Distribution Debt return on rate base (L36 x L43 / 12)	57,535	57,430	57,326	57,222	57,118	634,744
46 Transmission Debt return on rate base (L37 x L43 / 12)	33,434	33,377	33,320	33,263	33,206	348,643
47 Advance DMS Debt return on rate base (L38 x L43 / 12)	6,216	6,164	6,112	6,060	6,008	33,680
48 Communication Debt return on rate base (L39 x L43 / 12)	13,701	13,580	13,459	13,337	13,216	164,728
49 Enterprise Application Debt return on rate base (L40 x L43 / 12)	8,252	8,113	7,975	7,836	7,697	44,034
50 Distribution Equity return on rate base (L36 x L44 / 12)	200,377	200,014	199,651	199,288	198,925	2,210,634
51 Transmission Equity return on rate base (L37 x L44 / 12)	116,443	116,244	116,045	115,846	115,648	1,214,227
52 Advance DMS Equity return on rate base (L38 x L44 / 12)	21,648	21,467	21,286	21,105	20,924	117,299
53 Communication Equity return on rate base (L39 x L44 / 12)	47,717	47,295	46,873	46,451	46,029	573,702
54 Enterprise Application Equity return on rate base (L40 x L44 / 12)	28,740	28,257	27,774	27,291	26,808	153,360
55						
56 Other operation and maintenance expense: [3]						
57 Distribution O&M						764,206
58 Transmission O&M						210,074
59 General Plant O&M						2,786,879
60 Total O&M	-	-	-	-	-	3,761,160
61						
62 Depreciation and amortization:						
63 Distribution depreciation expense (L19)	58,733	58,733	58,733	58,733	58,733	618,066
64 Transmission depreciation expense (L20)	32,173	32,173	32,173	32,173	32,173	319,269
65 General plant depreciation expense (sum (L21:23))	175,779	175,779	175,779	175,779	175,779	1,317,844
66 Total Depreciation	266,686	266,686	266,686	266,686	266,686	2,255,179
67						
68 General taxes:						
69 Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	
70 Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	
71	20.254	20.254	20.254	20.254	20.254	141.250
72 Distribution property tax expense	28,254	28,254	28,254	28,254	28,254	141,270
73 Transmission property tax expense	8,940	8,940	8,940	8,940	8,940	44,699
74 General Plant property tax expense	7,710	7,710	7,710	7,710	7,710	38,552
75 Impact to general taxes (Sum (L72:L74) 76	44,904	44,904	44,904	44,904	44,904	224,521
77 Total impact to operating income: 78 Distribution (L57 + L63 + L72)	86,987	86,987	86,987	86,987	86,987	1,523,542
78 Distribution (L57 + L63 + L72) 79 Transmission (L58 + L64 + L73)	41,113	41,113	41,113	41,113	41,113	574,043
79 Transmission (L58 + L64 + L73) 80 General Plant (L59 + L65 + L74)	183,490	183,490	183,490	183,490	183,490	4,143,275
80 General Plant (L39 + L63 + L74) 81	183,490	183,490	183,490	183,490	183,490	4,143,273
82 Amount for Deferral						
83 Distribution impact to operating income (L45 + L50 + L78)	344,899	344,432	343,964	343,497	343,030	4,368,920
84 Transmission impact to operating income (L46 + L51 + L79)	190,991	190,735	190,479	190,223	189,967	2,136,913
85 General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	309,764	308,365	306,967	305,569	304,171	5,230,080
86 Total	845,653	843,532	841,411	839,289	837,168	11,735,913
87 Distribution Cumulative amount for deferral	3,067,669	3,429,383	3,792,789	4,157,900	4,524,723	11,733,913
88 Transmission Cumulative amount for deferral	1,404,371	1,602,918	1,802,396	2,002,809	2,204,163	
89 General Plant Cumulative amount for deferral	4,130,120	4,462,214	4,794,896	5,128,170	5,462,040	
90	7,130,120	.,402,214	.,//-,0/0	5,120,170	5,702,070	
91 Balance for return						
92 Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	2,895,220	3,257,167	3,620,807	3,986,151	4,353,208	
93 Transmission Balance for Return (Prior Month L90 + Current Month L90 /2)	1,308,876	1,507,551	1,707,156	1,907,697	2,109,179	
94 General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	3,975,238	4,308,031	4,641,412	4,975,386	5,309,954	
95	-,,-00	,,	,,	,,	.,, '	

Calculation of South Carolina Retail Costs	2020	2020	2020	2020	2020	
Line	<u>Jan</u>	Feb	Mar	Apr	May	Total
96 Return on Deferred Balance						
97 After Tax Long-term debt [4]	1.598%	1.598%	1.598%	1.598%	1.598%	
98 After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	
99 Distribution Debt return on rate base (L92 x L97 / 12)	3,855	4,337	4,821	5,308	5,797	40,553
100 Transmission Debt return on rate base (L93 x L97 / 12)	1,743	2,007	2,273	2,540	2,809	17,810
101 General Plant Debt return on rate base (L94 x L97 / 12)	5,293	5,736	6,180	6,625	7,071	58,816
102 Distribution Equity return on rate base (L92 x L97 / 12)	13,427	15,105	16,791	18,486	20,188	141,235
103 Transmission Equity return on rate base (L93 x L97 / 12)	6,070	6,991	7,917	8,847	9,781	62,029
104 General Plant Equity return on rate base (L94 x L97 / 12)	18,435	19,978	21,525	23,073	24,625	204,840
105 Total	48,823	54,156	59,508	64,879	70,270	525,284
106						
107 Total Deferred balance						
108 Distribution deferral (L83 + L99 + L102)	362,180	363,874	365,577	367,291	369,015	4,550,708
109 Transmission deferral (L84 + L100 + L103)	198,803	199,733	200,669	201,610	202,557	2,216,753
110 General Plant deferral (L85 + L101 + L104)	333,492	334,080	334,672	335,268	335,867	5,493,735
111 Total Sum (L108:L110)	894,476	897,688	900,919	904,169	907,438	12,261,196
112						
113 Annual Amortization						
114 Distribution amortization amount (L108/2)						2,275,354
115 Transmission amortization amount (L109/2)						1,108,376
116 General Plant amortization amount (L110/2)					_	2,746,868
117 Total Annual amortization amount (L111/2)						6,130,598

- [1] Based on lag time assumptions noted on Page 6
 - distribution plant, January based on 2018 capital spend. February December based transmission plant, January June based on 2018 capital spend. July December base communication plant, January March based on 2018 capital spend. April Decembe Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] place

- [2] Per accounting.
 [3] From Smith Exhibit 3 Page 6.
 [4] From Smith Exhibit 3, Page 7 lines 3 and 4

DUKE ENERGY CAROLINAS, LLC Smith Rebuttal Exhibit 3 DOCKET 2018-319-E SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2 REVENUE REQUIREMENT For the period January 1, 2020 through December 31, 202020

Page 4

Line			Total	Depreciation			
No.	Description		SC Retail	Rate	Depreciation		
1	Impact to Rate Base Line Items						
2	Additions to gross electric plant:						
3	Distribution [1]	\$	55,153,399	2.15%	\$	1,185,798	
4	Transmission [1]	•	26,146,987	2.03%	•	530,784	
5	General - Communication & Advanced DMS [1]		14,523,350	10.00%		1,452,335	
6	General - Enterprise Applications [1]		6,185,611	20.00%		1,237,122	
7	Impact to electric plant in service (Sum L3 through L6)	\$	102,009,348		\$	4,406,039	
8	1 1 (.,,	
9	Accumulated depreciation & amortization:						
10	Distribution accumulated depreciation (-L3)	\$	(1,185,798)				
11	Transmission accumulated depreciation (-L4)	Ψ	(530,784)				
12	General Plant accumulated depreciation (-Sum L5 through L6)		(2,689,457)				
13	Impact to accumulated depreciation (Sum L10 through L12)	\$	(4,406,039)				
14	impact to accumulated depreciation (Sum 210 through 212)		(1,100,027)				
15	Net electric plant:						
16	Distribution (L3 + L10)	\$	53,967,601				
17	Transmission (L4 + L11)	Ψ	25,616,203				
18	General Plant (L5 + L6 + L12)		18,019,505				
19	Impact to net plant (Sum L16 through L18)	\$	97,603,308				
20	impact to net plant (built bit alroagh bit)		77,003,300				
21	Cost of Capital [2]	9.59%					
22	Cost of Capital [2]	7.5770					
23	Rate Base Revenue Requirement						
24	Distribution (L16 * L21)	\$	5,173,672				
25	Transmission (L17 * L21)	Φ	2,455,730				
26	General Plant (L18 * L21)		1,727,463				
27	Impact to net plant (Sum L24 through L26)	\$	9,356,865				
28	impact to net plant (Sum E24 unough E20)	<u> </u>	9,550,605				
29	Impact to Income Statement Line Items						
30	Depreciation and amortization:						
31	Distribution depreciation expense (L3)	\$	1,185,798				
32	Transmission depreciation expense (L4)	Þ	530,784				
33	General Plant depreciation expense (Sum L5 through L6)		2,689,457				
34	1 1 1	\$	4,406,039				
35	Impact to deprec. and amortization (Sum L31 through L33)	2	4,406,039				
36	Removal of expired amortization of 2018 deferral:						
		¢.	(1.501.402)				
37	Distribution depreciation expense	\$	(1,581,483)				
38	Transmission depreciation expense	\$	(403,172)				
39	General Plant depreciation expense	\$	(1,371,814)				
40	Impact to deprec. and amortization (Sum L37 through L39)	\$	(3,356,469)				

DUKE ENERGY CAROLINAS, LLC

DOCKET 2018-319-E

SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2

REVENUE REQUIREMENT

[4] Smith Exhibit 3 page 7, line 24.

For the period January 1, 2020 through December 31, 202020

Line				Total	Depreciation	
No.	Description		į	SC Retail	Rate	Depreciation
41						
42	Amortization of 2019 deferral:					
43	Distribution depreciation expense					
44	Transmission depreciation expense					
45	General Plant depreciation expense					
46	Impact to deprec. and amortization (Sum L43 through L45)	-	\$	_		
47	1 1 (_	*			
48	Amortization of 2020 deferral:					
49	Distribution depreciation expense [3]		\$	3,758,362		
50	Transmission depreciation expense [3]			1,565,116		
51	General Plant depreciation expense [3]	_		3,491,338		
52	Impact to deprec. and amortization (Sum L49 through L51)	_	\$	8,814,816		
53						
54	General taxes:					
55	Property tax rate - South Carolina	1.0343%				
56	Property tax rate - Combined North Carolina and South Carolina	0.5641%				
57	7					
58	Distribution property tax expense (L3 * L55)		\$	570,436		
59	Transmission property tax expense (L4 * L56)			147,484		
60	General Plant property tax expense (Sum(L5 through L6) * L56)	_	•	116,811		
61 62	Impact to general taxes (Sum L58 through L60)	_	\$	834,731		
63	Income Taxes	24.95%				
64	Distribution (L31 + L37 + L43 + L49 + L58) * -L63		\$	(981,311)		
65	Transmission (L32 + L38 + L44 + L50 + L59) * -L63		φ	(459,133)		
66	General Plant (L33 + L39 + L45 + L51 + L60) * -L63			(1,228,985)		
67	Total income taxes (Sum L64 through L66)	-	\$	(2,669,429)		
68	((((-	Ψ	(2,00), (2)		
69	Total Income statement impact					
70	Distribution (L32 + L38 + L43 + L49 + L58 + L64)		\$	2,951,800		
71	Transmission (L33 + L39 + L44 + L50 + L59 + L65)			1,381,079		
72	General Plant $(L34 + L40 + L45 + L51 + L60 + L66)$			3,696,807		
73	Total income statement impact (Sum L70 through L72)		\$	8,029,687		
74						
75	Income Statement Requirement	74.72% [[4]			
76	Distribution (L70 / L75)		\$	3,950,614		
77	Transmission (L71 / L75)			1,848,400		
78	General Plant (L72 / L75)	_		4,947,712		
79	Total income statement Requirement (Sum L76 through L78	_	\$	10,746,725		
80						
81	Total Revenue Requirement for Plant additions and Deferral		•	0.104.006		
82	Distribution (L25 + L76) $T = \frac{1}{2} \left(\frac{1}{2} \left(\frac{1}{2} + \frac{1}{2} \frac{1}{2} \right) \right)$		\$	9,124,286		
83	Transmission (L26 + L77)			4,304,130		
84	General Plant (L27 + L78) Total Povenna Popularment (Sum L 82 through L 84)	_	e	6,675,174		
85	Total Revenue Requirement (Sum L82 through L84	=	\$	20,103,590		
	ith Exhibit 3 page 5, lines 7-11 May, 2021.					
	ith Exhibit 3 page 7, line 5. ith Exhibit 3 page 5, lines 114-116					
اللق [د]	an Lamon 5 page 5, mes 117-110					

Smith Rebuttal Exhibit 3

Page 4 Cont.

<u>Calculation of South Carolina Retail Costs</u> Line	2020 Jan	2020 Feb	2020 Mar	2020	2020	2020 Jun	2020 Jul	2020	2020	2020 Oct	2020 Nov	2020 Dec
No. Description	<u>Jan</u>	reb	<u>iviar</u>	<u>Apr</u>	May	<u>Jun</u>	<u> 341</u>	Aug	Sep	Oct	INOV	Dec
1 Plant-in-Service: [1]												
2 Distribution to Plant in Service	2,720,219	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653	4,766,653
3 Transmission to Plant in Service	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363	1,715,363	2,642,468	2,642,468	2,642,468	2,642,468	2,642,468	2,642,468
4 Advanced DMS Plant in Service			-	-	-	-	-	-	-	-	-	4,178,403
5 Communications Plant in Service	543,101	543,101	543,101	968,405	968,405	968,405	968,405	968,405	968,405	968,405	968,405	968,405
6 Enterprise Applications Plant in Service	-	-	-	-	-	-	-	-	-	-	-	6,185,611
7 Cumulative Distribution investment (L2)	2,720,219	7,486,871	12,253,524	17,020,177	21,786,830	26,553,483	31,320,135	36,086,788	40,853,441	45,620,094	50,386,746	55,153,399
8 Cumulative Transmission investment (L3)	1,715,363	3,430,726	5,146,089	6,861,452	8,576,815	10,292,179	12,934,647	15,577,115	18,219,583	20,862,051	23,504,519	26,146,987
9 Cumulative Advanced DMS investment (L4)	-	-	-	-	-	-	-	-	-	-	-	4,178,403
10 Cumulative Communication investment (L5)	543,101	1,086,202	1,629,302	2,597,707	3,566,112	4,534,517	5,502,922	6,471,327	7,439,732	8,408,137	9,376,542	10,344,947
11 Cumulative Enterprise Application investment (L6)	-	-	-	-	-	-	-	-	-	-	-	6,185,611
12												
13 Accumulated depreciation & amortization:												
14 Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%	2.15%
15 Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%	2.03%
16 Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
17 Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
18 Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
19 Distribution depreciation expense (L7 * L14)	-	4,874	13,414	21,954	30,494	39,035	47,575	56,115	64,656	73,196	81,736	90,276
20 Transmission depreciation expense (L8 * L15)	-	2,902	5,804	8,705	11,607	14,509	17,411	21,881	26,351	30,821	35,292	39,762
21 Advanced DMS depreciation expense (L9 * L16)	-	-	-	-	-	-	-	-	-	-	-	-
22 Communication depreciation expense (L10 * L17)	-	4,526	9,052	13,578	21,648	29,718	37,788	45,858	53,928	61,998	70,068	78,138
23 Enterprise Application depreciation expense (Ll1 * L18)	-	-		-	-	-	-		-	-	-	-
24 Distribution accumulated depreciation	-	(4,874)	(18,288)	(40,242)	(70,736)	(109,771)	(157,346)	(213,461)	(278,117)	(351,313)	(433,049)	(523,325)
25 Transmission accumulated depreciation	-	(2,902)	(8,705)	(17,411)	(29,018)	(43,527)	(60,938)	(82,819)	(109,171)	(139,992)	(175,284)	(215,046)
26 Advanced DMS accumulated depreciation	-	- 1	-	-	- 1		-	- 1	- 1	- 1	-	-
27 Communication accumulated depreciation	-	(4,526)	(13,578)	(27,155)	(48,803)	(78,520)	(116,308)	(162,166)	(216,093)	(278,091)	(348,159)	(426,297)
28 Enterprise Application accumulated depreciation	-	-	-	-	-	-	-	-	-	-	-	-
29												
30 Net electric plant												
31 Distribution (L7 + L24)	2,720,219	7,481,998	12,235,237	16,979,935	21,716,093	26,443,711	31,162,789	35,873,327	40,575,324	45,268,781	49,953,698	54,630,074
32 Transmission (L8 + L25)	1,715,363	3,427,824	5,137,384	6,844,041	8,547,797	10,248,651	12,873,708	15,494,295	18,110,412	20,722,058	23,329,235	25,931,941
33 Advanced DMS (L9 + L26)				-	-			-				4,178,403
34 Communication (L10 + L27)	543,101	1,081,676	1,615,725	2,570,552	3,517,310	4,455,997	5,386,614	6,309,162	7,223,639	8,130,046	9,028,383	9,918,650
35 Enterprise Application (L11 + L28)	-	-	-	-	-	-	-	-	-	-	-	6,185,611
36 Average rate base - Distribution	1,360,109	5,101,108	9.858.617	14.607.586	19.348.014	24,079,902	28,803,250	33.518.058	38,224,325	42,922,053	47,611,239	52,291,886
37 Average rate base - Transmission	857,682	2,571,594	4,282,604	5,990,713	7,695,919	9,398,224	11,561,180	14,184,002	16,802,354	19,416,235	22,025,647	24,630,588
38 Average rate base - Advanced DMS	-	-	-	-	-	-	-		-	-		2,089,202
39 Average rate base - Communication	271,550	812,388	1,348,700	2,093,139	3,043,931	3,986,653	4,921,306	5,847,888	6,766,400	7,676,842	8,579,215	9,473,517
40 Average rate base - Enterprise Application	-	-	-	-	-	-	-	-	-	-	-	3,092,806
41												-,,
42 Return on rate base:												
43 Long-term debt [4]	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%	2.129%
44 Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%	7.415%
45 Distribution Debt return on rate base (L36 x L43 / 12)	2,413	9,051	17,492	25,918	34,328	42,724	51,104	59,469	67,820	76,154	84,474	92,779
46 Transmission Debt return on rate base (L37 x L43 / 12)	1,522	4,563	7,598	10,629	13,654	16,675	20,512	25,166	29,812	34,449	39,079	43,701
47 Advance DMS Debt return on rate base (£37 x £43 / 12)	1,522	-,555	7,576	10,027	13,034	-	20,512	25,100	27,012		57,077	3,707
48 Communication Debt return on rate base (L39 x L43 / 12)	482	1,441	2,393	3,714	5,401	7,073	8,732	10,376	12,005	13,621	15,222	16,808
49 Enterprise Application Debt return on rate base (£39 x £43 / 12)	702	1,441	2,393	3,714	5,401	7,073	6,732	10,570	12,003	13,021	13,222	5,487
50 Distribution Equity return on rate base (L36 x L44 / 12)	8,404	31,521	60,919	90,263	119,556	148,795	177.981	207,115	236,196	265,225	294,200	323,123
51 Transmission Equity return on rate base (L30 x L44 / 12)	5,300	15,890	26,463	37,018	47,555	58,074	71,439	87,646	103,825	119,977	136,101	152,198
52 Advance DMS Equity return on rate base (L38 x L44 / 12)	3,300	13,890	20,403	37,018	47,555	38,074	/1,439	87,040	103,823	117,7//	130,101	12,910
52 Advance DMS Equity return on rate base (L38 x L44 / 12) 53 Communication Equity return on rate base (L39 x L44 / 12)	1,678	5,020	8,334	12,934	18,809	24,634	30,410	36,135	41,811	47,437	53,013	58,539
	1,6/8	5,020	8,334	12,934	18,809	24,634	30,410	36,133	41,011	47,437	55,015	19,111
54 Enterprise Application Equity return on rate base (L40 x L44 / 12)	-	-	-	-	-	-	-	-	-	-	-	19,111

Smith Rebuttal Exhibit 3 Calculation of SC Retail Costs Page 5

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT PLAN PHASE 2
For the period January 1, 2020 through December 31, 2020

Calculation of South Carolina Retail Costs	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020
Line	<u>Jan</u>	<u>Feb</u>	Mar	Apr	May	<u>Jun</u>	<u>Jul</u>	Aug	Sep	Oct	Nov	Dec
55												
56 Other operation and maintenance expense: [3]												
57 Distribution O&M	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347	106,347
58 Transmission O&M	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696	31,696
59 General Plant O&M	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977	315,977
60 Total O&M	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020	454,020
61												
62 Depreciation and amortization:												
63 Distribution depreciation expense (L19)	-	4,874	13,414	21,954	30,494	39,035	47,575	56,115	64,656	73,196	81,736	90,276
64 Transmission depreciation expense (L20)	-	2,902	5,804	8,705	11,607	14,509	17,411	21,881	26,351	30,821	35,292	39,762
65 General plant depreciation expense (sum (L21:23))	-	4,526	9,052	13,578	21,648	29,718	37,788	45,858	53,928	61,998	70,068	78,138
66 Total Depreciation	-	12,301	28,269	44,237	63,749	83,261	102,774	123,854	144,935	166,015	187,095	208,176
67												
68 General taxes:	1.020/	1.020/	1.020/	1.020/	1.020/		1.020/	1.020/	1.020/	1.020/	1.020/	
69 Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%	1.03%
70 Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%	0.56%
71												
72 Distribution property tax expense												
73 Transmission property tax expense												
74 General Plant property tax expense 75 Impact to general taxes (Sum (L72:L74))												
75 impact to general taxes (Sum (L/2:L/4)) 76	-	-	-	-	-	-	-	-	-	-	-	-
77 Total impact to operating income: 78 Distribution (L57 + L63 + L72)	106,347	111,221	119,761	128,302	136,842	145,382	153,922	162,463	171,003	179,543	188,083	196,624
78 Distribution (L57 + L65 + L72) 79 Transmission (L58 + L64 + L73)	31,696	34,598	37,500	40,401	43,303	46,205	49,107	53,577	58,047	62,517	66,988	71,458
80 General Plant (L59 + L65 + L74)	315,977	320,503	325,029	329,554	337,624	345,694	353,764	361,835	369,905	377,975	386,045	394,115
80 General Frant (L39 + L63 + L/4) 81	313,977	320,303	323,029	329,334	337,024	343,094	333,/04	301,033	309,903	3/1,9/3	380,043	394,113
82 Total impact to operating income:												
83 Distribution impact to operating income (L45 + L50 + L78)	117,165	151,793	198,172	244,483	290,726	336,901	383,008	429,047	475,019	520,922	566,758	612,525
84 Transmission impact to operating income (L46 + L51 + L79)	38,518	55,051	71,561	88,048	104,512	120,954	141,058	166,389	191,684	216,944	242,168	267,356
85 General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	318,137	326,964	335,755	346,202	361,834	377,402	392,906	408,345	423,721	439,032	454,279	510,677
86 Total	473,819	533,808	605,488	678,733	757,072	835,257	916,972	1.003,782	1,090,424	1,176,898	1,263,205	1,390,559
87 Distribution Cumulative impact to operating income	117,165	269,307	468,634	715,322	1,009,588	1,351,647	1,741,718	2,180,019	2,666,770	3,202,192	3,786,510	4,419,945
88 Transmission Cumulative impact to operating income	38,518	93,683	165,639	254,463	360,232	483,023	626,604	796,312	992,253	1,214,548	1,463,318	1,738,686
89 General Plant Cumulative impact to operating income	318,137	646,050	984,686	1,335,764	1,704,538	2,091,035	2,495,296	2,917,363	3,357,279	3,815,087	4,290,828	4,825,761
90	,		,	-,000,000	-,,,	_,,	_,,	_,, . , , ,	-,,	.,,	.,_, .,	.,,
91 Balance for return												
92 Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	58,583	193,411	369,548	593,081	864,225	1,183,197	1,550,214	1,965,495	2,429,260	2,941,731	3,503,131	4,113,683
93 Transmission Balance for Return (Prior Month L90 + Current Month L90/2)	19,259	66,158	129,859	210,439	307,975	422,547	556,075	713,118	896,411	1,106,076	1,342,234	1,605,008
94 General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	159,068	482,568	816,808	1,162,663	1,523,621	1,902,333	2,298,843	2,713,190	3,145,419	3,595,570	4,063,688	4,570,423
95												
96 Return on Deferred Balance												
97 After Tax Long-term debt [4]	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%	1.598%
98 After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%	5.565%
99 Distribution Debt return on rate base (L92 x L97 / 12)	78	258	492	790	1,151	1,576	2,064	2,617	3,235	3,917	4,665	5,478
100 Transmission Debt return on rate base (L93 x L97 / 12)	26	88	173	280	410	563	740	950	1,194	1,473	1,787	2,137
101 General Plant Debt return on rate base (L94 x L97 / 12)	212	643	1,088	1,548	2,029	2,533	3,061	3,613	4,188	4,788	5,411	6,086
102 Distribution Equity return on rate base (L92 x L97 / 12)	272	897	1,714	2,750	4,008	5,487	7,189	9,115	11,266	13,642	16,246	19,077
103 Transmission Equity return on rate base (L93 x L97 / 12)	89	307	602	976	1,428	1,960	2,579	3,307	4,157	5,129	6,225	7,443
104 General Plant Equity return on rate base (L94 x L97 / 12)	738	2,238	3,788	5,392	7,066	8,822	10,661	12,582	14,587	16,674	18,845	21,195
105 Total	1,414	4,430	7,857	11,736	16,092	20,940	26,295	32,184	38,626	45,624	53,179	61,416
106												

Calculation of South Carolina Retail Costs	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020	2020
Line	<u>Jan</u>	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
107 <u>Total</u>												
108 Distribution deferral (L83 + L99 + L102)	117,515	152,947	200,377	248,023	295,884	343,963	392,261	440,780	489,519	538,482	587,668	637,080
109 Transmission deferral (L84 + L100 + L103)	38,632	55,446	72,336	89,305	106,351	123,476	144,378	170,646	197,035	223,546	250,180	276,937
110 General Plant deferral (L85 + L101 + L104)	319,086	329,844	340,631	353,142	370,929	388,757	406,628	424,541	442,496	460,494	478,536	537,958
111 Total Sum (L108:L110)	475,233	538,237	613,345	690,469	773,164	856,197	943,267	1,035,966	1,129,050	1,222,522	1,316,383	1,451,975
112												

- 113 Annual Amortization

- 113 Annuai Amortization 114 Distribution amortization amount (L108/2) 115 Transmission amortization amount (L109/2) 116 General Plant amortization amount (L110/2)
- 117 Total Annual amortization amount (L111/2)

- [1] Based on lag time assumptions noted on Page 6
 distribution plant, January based on 2018 capital spend. February December based on monthly amount from Page 6 [A]
 transmission plant, January March based on 2018 capital spend. July December based on monthly amount from Page 6 [B]
 communication plant, January March based on 2018 capital spend. April December based on monthly amount from Page 6 [C]

 - Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed in service in December.

- [2] Per accounting.
 [3] From Smith Exhibit 3 Page 6.
 [4] From Smith Exhibit 3, Page 7 lines 3 and 4

	Calculation of South Carolina Retail Costs	2021	2021	2021	2021	2021	
Line		Jan	<u>Feb</u>	Mar	Apr	May	Total
No.	Description						
1	Plant-in-Service: [1]						
	Distribution to Plant in Service						
	Transmission to Plant in Service						
4	Advanced DMS Plant in Service						
5	Communications Plant in Service						
6	Enterprise Applications Plant in Service						
7	Cumulative Distribution investment (L2)	55,153,399	55,153,399	55,153,399	55,153,399	55,153,399	
	Cumulative Transmission investment (L3)	26,146,987	26,146,987	26,146,987	26,146,987	26,146,987	
	Cumulative Advanced DMS investment (L4)	4,178,403	4,178,403	4,178,403	4,178,403	4,178,403	
10	Cumulative Communication investment (L5)	10,344,947	10,344,947	10,344,947	10,344,947	10,344,947	
11	Cumulative Enterprise Application investment (L6)	6,185,611	6,185,611	6,185,611	6,185,611	6,185,611	
12							
	Accumulated depreciation & amortization:						
	Distribution plant depreciation rate [2]	2.15%	2.15%	2.15%	2.15%	2.15%	
	Transmission plant depreciation rate [2]	2.03%	2.03%	2.03%	2.03%	2.03%	
	Advance DMS plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
	Communication plant depreciation rate [2]	10.00%	10.00%	10.00%	10.00%	10.00%	
	Enterprise Application plant depreciation rate [2]	20.00%	20.00%	20.00%	20.00%	20.00%	
	Distribution depreciation expense (L7 * L14)	98,817	98,817	98,817	98,817	98,817	
	Transmission depreciation expense (L8 * L15)	44,232	44,232	44,232	44,232	44,232	
	Advanced DMS depreciation expense (L9 * L16)	34,820	34,820	34,820	34,820	34,820	
	Communication depreciation expense (L10 * L17)	86,208	86,208	86,208	86,208	86,208	
	Enterprise Application depreciation expense (L11 * L18)	103,094	103,094	103,094	103,094	103,094	
	Distribution accumulated depreciation	(622,141)	(720,958)	(819,774)	(918,591)	(1,017,407)	
	Transmission accumulated depreciation	(259,278)	(303,510)	(347,742)	(391,974)	(436,206)	
	Advanced DMS accumulated depreciation	(34,820)	(69,640)	(104,460)	(139,280)	(174,100)	
	Communication accumulated depreciation	(512,505)	(598,712)	(684,920)	(771,128)	(857,336)	
	Enterprise Application accumulated depreciation	(103,094)	(206,187)	(309,281)	(412,374)	(515,468)	
29							
	Net electric plant						
	Distribution (L7 + L24)	54,531,258	54,432,441	54,333,625	54,234,808	54,135,992	
	Transmission (L8 + L25)	25,887,709	25,843,477	25,799,245	25,755,013	25,710,781	
	Advanced DMS (L9 + L26)	4,143,583	4,108,763	4,073,943	4,039,123	4,004,303	
	Communication (L10 + L27)	9,832,442	9,746,234	9,660,027	9,573,819	9,487,611	
	Enterprise Application (L11 + L28)	6,082,518	5,979,424	5,876,331	5,773,237	5,670,144	
	Average rate base - Distribution	54,580,666	54,481,850	54,383,033	54,284,217	54,185,400	
	Average rate base - Transmission	25,909,825	25,865,593	25,821,361	25,777,129	25,732,897	
	A Average rate base - Advanced DMS	4,160,993	4,126,173	4,091,353	4,056,533	4,021,713	
	Average rate base - Communication	9,875,546	9,789,338	9,703,131	9,616,923	9,530,715	
40	Average rate base - Enterprise Application	6,134,065	6,030,971	5,927,878	5,824,784	5,721,691	
	Return on rate base: Long-term debt [4]	2.129%	2.129%	2.129%	2.129%	2.129%	
	Members' equity [4]	7.415%	7.415%	7.415%	7.415%	7.415%	
	Distribution Debt return on rate base (L36 x L43 / 12)	96,840	96,664	96,489	96,314	96,138	1,046,171
	Transmission Debt return on rate base (L37 x L43 / 12)	45,971	45,892	45,814	45,735	45,657	476,428
	Advance DMS Debt return on rate base (L3 / x L43 / 12) Advance DMS Debt return on rate base (L38 x L43 / 12)	7,383	7,321	7,259	7,197	7,136	40,002
	Communication Debt return on rate base (L39 x L43 / 12)	17,522	17,369	17,216	17,063	16,910	183,346
	Enterprise Application Debt return on rate base (L39 x L43 / 12) Enterprise Application Debt return on rate base (L40 x L43 / 12)	17,322	10,700	10,518	10,335	10,152	58,075
	Distribution Equity return on rate base (L36 x L44 / 12)	337,266	336,655	336,044	335,434	334,823	3,643,520
	Transmission Equity return on rate base (L36 x L44 / 12)	160,102	159,829	159,556	159,282	159,009	1,659,264
	Advance DMS Equity return on rate base (L37 x L44 / 12)	25,712	25,497	25,281	25,066	24,851	139,316
	Communication Equity return on rate base (L39 x L44 / 12)	61,023	60,490	59,958	59,425	58,892	638,543
	Enterprise Application Equity return on rate base (L40 x L44 / 12)	37,904	37,267	36,630	35,993	35,356	202,259
34	Emorprise Application Equity fettiri on fate base (E40 x E44 / 12)	31,904	37,207	30,030	33,773	00,000	202,239

Calculation of South Carolina Retail Costs	2021 Jan	2021 Feb	2021 Mar	2021 Apr	2021 May	Total
55						
56 Other operation and maintenance expense: [3]						
57 Distribution O&M						1,276,170
58 Transmission O&M						380,352
59 General Plant O&M						3,791,722
60 Total O&M	-	-	-	-	-	5,448,244
61						
62 Depreciation and amortization:						
63 Distribution depreciation expense (L19)	98,817	98,817	98,817	98,817	98,817	1,017,407
64 Transmission depreciation expense (L20)	44,232	44,232	44,232	44,232	44,232	436,206
65 General plant depreciation expense (sum (L21:23))	224,121	224,121	224,121	224,121	224,121	1,546,904
66 Total Depreciation	367,170	367,170	367,170	367,170	367,170	3,000,517
67						
68 General taxes:						
69 Property tax rate - South Carolina	1.03%	1.03%	1.03%	1.03%	1.03%	
70 Property tax rate - Combined North Carolina and South Carolina	0.56%	0.56%	0.56%	0.56%	0.56%	
71						
72 Distribution property tax expense	47,536	47,536	47,536	47,536	47,536	237,682
73 Transmission property tax expense	12,290	12,290	12,290	12,290	12,290	61,452
74 General Plant property tax expense	9,734	9,734	9,734	9,734	9,734	48,671
75 Impact to general taxes (Sum (L72:L74))	69,561	69,561	69,561	69,561	69,561	347,805
76						
77 Total impact to operating income:						
78 Distribution (L57 + L63 + L72)	146,353	146,353	146,353	146,353	146,353	2,531,259
79 Transmission (L58 + L64 + L73)	56,522	56,522	56,522	56,522	56,522	878,009
80 General Plant (L59 + L65 + L74)	233,856	233,856	233,856	233,856	233,856	5,387,297
81						
82 Total impact to operating income:						
83 Distribution impact to operating income (L45 + L50 + L78)	580,458	579,672	578,886	578,100	577,314	7,220,950
84 Transmission impact to operating income (L46 + L51 + L79)	262,595	262,243	261,892	261,540	261,188	3,013,702
85 General plant impact to operating income (sum(L47:49) + sum(L52:54) + L80)	394,282	392,499	390,717	388,934	387,152	6,648,839
86 Total	1,237,335	1,234,415	1,231,495	1,228,574	1,225,654	16,883,490
87 Distribution Cumulative impact to operating income	5,024,958	5,632,893	6,243,672	6,857,314	7,473,834	
88 Transmission Cumulative impact to operating income	2,010,862	2,284,324	2,559,069	2,835,102	3,112,432	
89 General Plant Cumulative impact to operating income	5,247,324	5,669,968	6,093,358	6,517,498	6,942,392	
90						
91 Balance for return						
92 Distribution Balance for Return (Prior Month L89 + Current Month L89 /2)	4,734,729	5,343,056	5,954,229	6,568,263	7,185,177	
93 Transmission Balance for Return (Prior Month L90 + Current Month L90 /2)	1,879,564	2,153,203	2,428,123	2,704,332	2,981,838	
94 General Plant Balance for Return (Prior Month L90 + Current Month L90 /2)	5,050,183	5,473,719	5,898,000	6,323,031	6,748,817	
95						
96 Return on Deferred Balance						
97 After Tax Long-term debt [4]	1.598%	1.598%	1.598%	1.598%	1.598%	
98 After Tax Members' equity [4]	5.565%	5.565%	5.565%	5.565%	5.565%	
99 Distribution Debt return on rate base (L92 x L97 / 12)	6,305	7,115	7,929	8,746	9,568	65,981
00 Transmission Debt return on rate base (L93 x L97 / 12)	2,503	2,867	3,233	3,601	3,971	25,995
01 General Plant Debt return on rate base (L94 x L97 / 12)	6,725	7,289	7,854	8,420	8,987	74,472
02 Distribution Equity return on rate base (L92 x L97 / 12)	21,957	24,778	27,613	30,460	33,321	229,793
03 Transmission Equity return on rate base (L93 x L97 / 12)	8,716	9,985	11,260	12,541	13,828	90,534
04 General Plant Equity return on rate base (L94 x L97 / 12)	23,420	25,384	27,352	29,323	31,298	259,366
04 General Flant Equity return on rate base (E54 x E57 / 12)						

Calculation of South Carolina Retail Costs	2021	2021	2021	2021	2021	
Line	<u>Jan</u>	Feb	Mar	Apr	May	Total
107 <u>Total</u>						
108 Distribution deferral (L83 + L99 + L102)	608,720	611,565	614,428	617,307	620,203	7,516,723
109 Transmission deferral (L84 + L100 + L103)	273,814	275,096	276,385	277,682	278,987	3,130,231
110 General Plant deferral (L85 + L101 + L104)	424,427	425,172	425,922	426,677	427,436	6,982,677
111 Total Sum (L108:L110)	1,306,961	1,311,834	1,316,735	1,321,666	1,326,626	17,629,631
112						
113 Annual Amortization						
114 Distribution amortization amount (L108/2)						3,758,362
115 Transmission amortization amount (L109/2)						1,565,116
116 General Plant amortization amount (L110/2)						3,491,338
117 Total Annual amortization amount (L111/2)					· -	8,814,816

- [1] Based on lag time assumptions noted on Page 6
 distribution plant, January based on 2018 capital spend. February December based or
 transmission plant, January June based on 2018 capital spend. July December based
 communication plant, January March based on 2018 capital spend. April December
 Advance DMS and Enterprise Systems annual amounts amount from Page 6 [D] placed

- [2] Per accounting.
 [3] From Smith Exhibit 3 Page 6.
 [4] From Smith Exhibit 3, Page 7 lines 3 and 4

DUKE ENERGY CAROLINAS, LLC
DOCKET 2018-319-E
SOUTH CAROLINA RETAIL GRID IMPROVEMENT
Capital Spend and Installation O&M Estimates
Dollars in Millions

DEC Total Capital Spend			SC Retail	DEC Total Capital Spend							
						2019		2020			
SYSTEM [1]	2019	2020	Allocation [2]	SC Retail	2019	Monthly	2020	Monthly			
Energy Storage (NC Dist)	0.628	10.100		Energy Storage (NC Dist)							
Distribution NC	133.896	209.187		Distribution NC							
Energy Storage (SC Dist)	0.140	0.022	Direct	Energy Storage (SC Dist)	0.140	0.012	0.022	0.002			
Distribution SC	32.502	57.178	Direct	Distribution SC	32.502	2.709	57.178	4.765			
Total Distribution	167.166	276.486		Total Distribution [A]	32.643	2.720	57.200	4.767			
Energy Storage (Trans)	0.768	10.122	18.75%	Energy Storage (Trans)	0.144	0.012	1.898	0.158			
Transmission	109.034	159.025	18.75%	Transmission	20.440	1.703	29.812	2.484			
Total Transmission	109.802	169.147		Total Transmission [B]	20.584	1.715	31.710	2.642			
Advanced DMS	14.096	16.742	24.96%	Advanced DMS [D]	3.518	0.293	4.178	0.348			
Communication	26.112	46.561	24.96%	Communication [C]	6.517	0.543	11.621	0.968			
Enterprise Application	18.792	24.784	24.96%	Enterprise Application [D]	4.690	0.391	6.186	0.515			
TOTAL	335.968	533.720		TOTAL	67,952	5,663	110.894	9.241			

20 Plant In Service Assumptions	Lag between Capital Spend and asset in service
21 Distribution	1 month
22 Transmission	6 months
23 Communication	3 months
24 Advanced DMS & Enterprise Application	Annually in December
25	

26 DEC Total O&	SC Retail	DEC Total O&M Spend						
						2019		2020
27 SYSTEM [1]	2019	2020	Allocation [2]	SC Retail	2019	Monthly	2020	Monthly
28								
29 Energy Storage (NC Dist)	0.035	0.561		Energy Storage (NC Dist)				
30 Distribution NC	3.300	4.253		Distribution NC				
31 Energy Storage (SC Dist)	0.008	0.001	Direct	Energy Storage (SC Dist)	0.008	0.001	0.001	0.000
32 <u>Distribution SC</u>	0.756	1.275	Direct	Distribution SC	0.756	0.063	1.275	0.106
33 Total Distribution	4.099	6.090		Total Distribution	0.764	0.064	1.276	0.106
34								
35 Energy Storage (Trans)	0.043	0.563	18.75%	Energy Storage (Trans)	0.008	0.001	0.105	0.009
36 Transmission	1.078	1.466	18.75%	Transmission	0.202	0.017	0.275	0.023
37 Total Transmission	1.121	2.029		Total Transmission	0.210	0.018	0.380	0.032
38								
39 Advanced DMS	0.974	1.156	24.96%	Advanced DMS	0.243	0.020	0.289	0.024
40 Communication	1.278	2.279	24.96%	Communication	0.319	0.027	0.569	0.047
41 Enterprise Application	8.914	11.757	24.96%	Enterprise Application	2.225	0.185	2.934	0.245
42								
43 TOTAL	16.386	23.311		TOTAL	3.761	0.313	5.448	0.454

^[1] System numbers and Plant in Service assumptions from Witness Oliver

^[2] Allocation factors from the Cost of service study.

DUKE ENERGY CAROLINAS, LLC DOCKET 2018-319-E SOUTH CAROLINA RETAIL GRID IMPROVEMENT Smith Rebuttal Exhibit 3 Calculation of SC Retail Costs Page 7

Weighted Average Cost of Capital

Line		Capital	Cost/	Weighted	Income Taxes	After Tax	Income Taxes	Revenue Requirement Excluding Gross Receipt Tax and	Combined Gross Receipts Tax and Regulatory Fee Factor	Revenue Requirement Including Gross Receipt Tax and
No.	Description	Structure	Return	Cost/Return	Factor	Return	Factor	Regulatory Fee		Regulatory Fee
1		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
2										
3	Long-term debt	47.0000%	4.53%	2.1291%	0.7505000	1.59789%	1.00000	2.12910%	99.55699%	2.13857%
4	Members' equity	53.0000%	10.50%	5.5650%	1.0000000	5.56500%	0.75050	7.41506%	99.55699%	7.44805%
5	Total $(L3 + L4)$	100.0000%		7.6941%		7.1629%		9.5442%		9.5866%
6										
7	Gross revenue				1.0000000					
8	State income tax rate				0.0500000					
9	Remainder (L7 - L8)				0.9500000					
10	Federal income tax rate				0.2100000					
11	Federal income tax (L9 x L10)				0.1995000					
12	State income tax rate				0.0500000					
13	Combined income tax rate (L11 + L12)				0.2495000					
14	1 minus combined income tax rate (1 - L13)				0.7505000					
15										
16	Gross revenue				1.0000000					
17										
18	Gross receipts tax rate				0.0030000					
19	Regulatory fee rate			-	0.0014301					
20	Combined gross receipts tax and regulatory fee r	ate (L16 - L18 - L19)		0.9955699					
21	State income tax (L8 x L20)				0.0497785					
22	Balance (L20 - L21)				0.9457914					
23	Federal income tax (L10 x L22)			-	0.1986162					
24	Retention factor (L22 - L23)			=	0.7471752					